

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1 – 33 (Canceled).

Claim 34 (Currently Amended): An endoscope system comprising:

an endoscope provided with a solid-state imaging device having therein an electron multiplication mechanism to vary an electron multiplication rate and change a sensitivity of the solid-state imaging device based on sensitivity control pulses supplied;

a signal processing unit for processing a signal output from the solid-state imaging device;

a light source unit for irradiating an object; and

a sensitivity control unit for controlling a sensitivity by controlling the number or amplitude of the sensitivity control pulses to vary the electron multiplication rate, the sensitivity control unit controlling the number of sensitivity control pulses or amplitude of the sensitivity control pulses so that a level of a signal from the solid-state imaging device may be of a predetermined value; and

an automatic-gain control circuit adapted for supplementarily amplifying a signal output from the solid state imaging device of which the sensitivity has been controlled so that the level of the signal becomes a predetermined level if it is lower than the predetermined level.

Claim 35 (Previously Presented): An endoscope system according to Claim 34, wherein the light source means irradiates light for performing observation under special light to an object, and the solid-state imaging device receives light of fluorescence from the object.

Claim 36 (Previously Presented): An endoscope system according to Claim 35, further comprising:

a switching device for switching light irradiated by the irradiating means to light for performing observation under ordinary light or light for performing observation under special light.

Claim 37 (Previously Presented): An endoscope system according to Claim 36, wherein the endoscope further includes a second solid-state imaging device for performing the observation under ordinary light.

Claim 38 (Previously Presented): An endoscope system according to Claim 37, wherein the second solid-state imaging device has no electron multiplication mechanism.

Claims 39 – 40 (Canceled)

Claim 41 (Currently Amended): An endoscope system comprising:

an endoscope provided with a solid-state imaging device having therein an electron multiplication mechanism to vary an electron multiplication rate and change the sensitivity of the solid-state imaging device based on sensitivity control pulses supplied;

a signal processing unit for processing a signal output from the solid-state imaging device;

a light source unit for irradiating an object; and

a sensitivity control means for controlling a sensitivity by controlling the number or amplitude of the sensitivity control pulses to vary the electron multiplication rate, the sensitivity control means controlling the number or amplitude of the sensitivity control pulses so that a level of a signal from the solid-state imaging device may be of a predetermined value; and

an auto-gain control circuit for supplementarily amplifying a signal from the solid-state imaging device of which the sensitivity has been controlled so that the level of the signal becomes a predetermined level if it is lower than the predetermined level.

Claims 42-46 (Canceled)

Claim 47 (Currently Amended): An endoscope system comprising:

an endoscope provided with a solid-state imaging device having therein an electron multiplication mechanism to vary an electron multiplication rate and change the sensitivity of the solid-state imaging device based on sensitivity control pulses supplied;

a signal processing unit for processing a signal output from the solid-state imaging device;

a light source unit for irradiating an object;

a sensitivity control unit for controlling a sensitivity by controlling the number or amplitude of the sensitivity control pulses to vary the electron multiplication rate, the sensitivity control means controlling the number or amplitude of the sensitivity control pulses

so that the electron multiplication rate of the solid-state imaging device may be of a predetermined level; and

an auto-gain control circuit for supplementarily amplifying a signal from the solid-state imaging device of which the sensitivity has been controlled so that the level of the signal may become a predetermined value if it is lower than the predetermined level.

**Claim 48 (Previously Presented):** An endoscope system according to Claim 47, wherein the light source unit irradiates light for performing observation under special light to an object, and the solid-state imaging device receives light of fluorescence from the object.

**Claim 49 (Previously Presented):** An endoscope system according to Claim 47, further comprising:

a switching device for switching light irradiated by the irradiating unit to light for performing observation under ordinary light or light for performing observation under special light.

**Claim 50 (Previously Presented):** An endoscope system according to Claim 48, wherein the endoscope further includes a second solid-state imaging device for performing the observation under ordinary light.

**Claim 51 (Previously Presented):** An endoscope system according to Claim 50, wherein the second solid-state imaging device has no electron multiplication mechanism.

**Claim 52 (Currently Amended):** An endoscope system comprising:

an endoscope provided with a solid-state imaging device having therein an electron multiplication mechanism to vary an electron multiplication rate and change the sensitivity of the solid-state imaging device based on sensitivity control pulses supplied;

a signal processing means for processing a signal output from the solid-state imaging device;

a light source means for irradiating an object;

a sensitivity control means for controlling a sensitivity by controlling the number or amplitude of the sensitivity control pulses to vary the electron multiplication rate; and

amplifying means for supplementarily amplifying a signal from the solid-state imaging device of which the sensitivity has been controlled so that the level of the signal may become a predetermined value if it is lower than ~~the~~ a predetermined level.